THE GENESEE FARMER.

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THE GENESEE FARMER.

SATURDAY, MARCH 15, 1834.

Rotation of Crops.

The following is an extract from a private letter of our correspondent Ontario. We unite with him in the desire that the *Monroe Farmer* will often favor the readers of our paper with the results of his experience:

"I cannot withhold the expression of my approbation of the article in the last number, headed "ROTATION OF CROPS." The "*Monroe Farmer*" understands his business, and I hope will often favor us with the results of his experience. I should, however, differ with him in one respect. I *have found by experience*, that when a spring crop is taken off, and wheat is to follow, the best method is to harrow thoroughly, immediately, which causes all the seeds of grain which may have scattered, or of weeds, to vegetate. About two weeks before seeding, turn all the green stuff and stubble under the soil, there to remain and rot. If ploughed the second time, much of the stubble is brought to the surface and lost."

New kind of Apple.

We copy the following paragraph from a letter lately received:

"We have a fine variety of the apple known here by the name of the *Ridge Pippin*. It has some resemblance to the *Bell-flower*, and is very popular in the Philadelphia market from Christmas until the first of April. The trees are of handsome growth, and abundant bearers. The fruit frequently commands one third more in price than any other apple except the *Newtown Pippin*, which is unprofitable on account of the unproductiveness of the tree."

Results of Experiments.

The following is taken from a private letter from a highly esteemed friend and correspondent:

"There are no articles published, so valuable to the farmer, as the results of experiments. They are the origin of all improvements; and it is my intention to institute several for my own satisfaction and the public benefit.

"The sentiment contained in the article alluded to,* that *naked fallows are unnecessary*, is so coincident with my own views, and I may add, my experience, that I was glad to see it. But I will go still farther, and assert, that where sward or manure has been buried in the soil, and a spring crop put in, that the land will not be as much exhausted by the crop, as it would be robbed by turning up the manure in the process of summer fallowing. Many farmers have yet to learn, that *to reap the greatest benefit from manure, it must be kept buried in the soil.*"

[* "On Gypsum as a Manure," for which see Gen. Far. vol. 3, p. 229.]

"Ten Days in Ohio."

We glean from "Ten Days in Ohio," published in Silliman's Journal, the following items of interest to the farmer:

Value of Clover.—Speaking of Muskingum county, the traveler says, the land is generally prepared for a wheat crop, *by ploughing in a heavy growth of clover;* and that this practice has, within six or eight years, *actually doubled the agricultural wealth of the county.* This practice is a modification of alternate husbandry. It diversifies the crop, which is one great advantage; and it provides ample food for the wheat crop, which is the main exhauster of the soil. If roots were alternated with the wheat and clover it would be still better. If the clover was cross-ploughed, as we cross-plough our summer fallows, the food here secured for the wheat would be wasted and lost, by being turned up to the exhausting influence of the sun and winds. Turneps must and will, ultimately, enter largely into the cattle husbandry of Ohio.

Cattle Food.—We learn also from our traveler, that during the winter months, cattle are fed in Ohio on Indian corn, cut up with the stem and foliage, *before the grain has become hard*, and placed upright in moderate sized shocks; that in this way it dries without mouldiness; and makes one of the most succulent and nutricious articles of food; and that thousands of acres are cultivated in Ohio for this purpose.

This practice, so far as it converts the *grain* into a part of the fodder, is to us altogether new, and yet it seems highly beneficial, at least where the grain, as in Ohio, commands but a low price. Our traveler being rather a geologist than a farmer, has not told us whether the corn, thus intended for fodder, is sown broad cast or in drills or hills, or whether it receives any after culture. If broad cast the grain would be in far smaller proportion than if in hills, and partially dressed. If sown in drills, and the ground merely dressed with a cultivator, the expense per acre would not exceed two or three dollars more than if sown broad cast; the corn would repay this, and more, and the stalks would be rather increased than diminished. Cut in a green succulent state, the stalks contain far more nutriment, and are better relished by cattle, than when suffered to ripen the grain. It is this consideration which has led to the practice of cutting up corn, for the crop, as soon as the grain has become seared, or glazed. To those unpracticed in this method of harvesting the crop, doubts are apt to be entertained whether the corn, thus cut, will ripen. From fourteen year's practice I can assure them, that such corn will be as sound, as bright and as heavy, as that which is left to ripen in the field uncut. Our quotation suggests important hints, which we hope some of our farmers will have courage to profit from.

Hard Water.—It is a practice on what are called "the Barrens," in Ohio, where the water is strongly impregnated with lime, and of course unfit for many culinary uses, to mix with it ley of wood ashes. And we have seen, among us, a small bag of ashes put into a kettle of water for washing clothes, or dishes, in order to render it soft. The utility of this practice may be thus chimically explained: The lime which exists in the water consists of calcareous matter and carbonic acid; the alkali of the ley abstracts the carbonic acid, having a stronger affinity for it than the lime, the latter is precipitated; and the water, thus freed, becomes soft, and readily forms, with soap, what is denominated *suds*. The presence of lime in water is soon ascertained by the crust which it forms in the inside of tea kettles in which it is boiled. The remedy should be remembered by those who live in lime districts.

Great herds of Cattle.—Mr. Gwinn, of Madison county, Ohio, keeps 1200 head of cattle, for which he has ample lands and enclosures; and many of his neighbors, who are in the cattle business, have herds of from two to eight hundred, and lands in proportion. It is wonderful, to those who can carry back their recollection for a few years, when the whole state was an entire wilderness, to behold Ohio now outstripping most of the old states, in population and agricultural improvement.

For the Genesee Farmer.

Barley.

We should suppose that the very general abandonment of the use of ardent spirits, would have the effect to increase the consumption of malt liquors in our western country, and of course the demand for barley, but I have no evidence of any such result.

In Cayuga county this grain is extensively cultivated, and sent to Albany. It is considered a valuable crop when the price at market will pay the farmer 4*s.* to 4*s.* 6*d.* over the cost of transportation. The reduction of tolls, on the canal, will render it profitable for the farmer, further west, to engage in its culture; and with a hope that many of them will make a trial this spring, I am induced to furnish them with the result of my observation and experience.

My attention has been renewedly drawn to the subject, by an excellent article from the pen of J. Buel, in No. 1 of the current volume. His remarks, in relation to the importance of keeping the different kinds separate, are worthy of our attention. This grain is cultivated extensively in some parts of Onondaga, especially on the borders of Skaneateles Lake, where they prefer the six rowed variety; but the farmers of Cayuga find the two rowed more saleable, and equally productive, and it is the prevailing opinion, in both sections, that they obtain as fine crops of wheat after barley, as from their summer fallows.

J. B. justly observes, that "Barley produces best upon a light rich soil." Other soils, however, may be made to yield abundant crops if rightly managed. The farmers, on the east bank of Cayuga Lake, by ploughing their stiff clay marl in autumn, and merely harrowing in spring, bring it into a fine state for barley, and not unfrequently obtain 30 to 50 bushels per acre, and on sandy

loam at Pultneyville, 60 bushels per acre have been obtained.

Thirty years ago, the greater part of the barley consumed in the United States, was the growth of the eastern states, mostly of Rhode Island. The extensive breweries in New-York and Philadelphia then obtained their supplies principally from the latter. From some cause, unknown to us, that country will no longer produce it, or in such small quantities as not to pay the husbandman. With the increase of population on the sea board, the demand must increase; and if, as J. B. states, "more than two thirds of the barley raised in the United States, is the produce of this state, and that this is almost wholly grown in the northern and western parts," it is an evidence that our soil and climate are peculiarly favorable to its production. It therefore becomes our interest to go more extensively into its culture. It is a grain that requires early sowing. As soon as the ground is sufficiently dry to put it in a fit state to receive it, it should be sown.

Two to three bushels per acre is the proper quantity of seed. A correspondent of the Bath Society, (England,) says:

"He soaked his seed barley in the black water taken from a reservoir, which constantly received the draining of stables. As the light corn [barley] floated on the surface, he skimmed it off, and suffered it to rest twenty-four hours. On taking it from the water, he mixed the seed grain with a sufficient quantity of wood ashes, to make it spread more regularly, and sowed with it three fields. The produce was 60 *bushels per acre*, of good clean barley, without any small or green corn, or weeds, at harvest. He also sowed several other fields with the same seed, dry, and without any preparation, but the crops were poor, producing *only* 20 *bushels per acre*, and much mixed with green corn and weeds."

Barley should not stand till quite ripe. It should be cradled, (instead of the Cayuga method of mowing) and left in swath a few days, then lifted from the swath with a long tined fork made for the purpose. In this way it is expeditiously loaded.

If our rich western lands, by ploughing in autumn, and sowing with barley in the spring, will produce a good crop, and then by once ploughing, as heavy a crop of wheat as if summer fallowed, we may congratulate ourselves that our lot has been cast in a land so highly favored.

ONTARIO.

For the Genesee Farmer.

Farmer's Diary.

I like the suggestions of your correspondent *Ontario*, respecting farming memorandums. I have been in the practice of keeping such a diary, and can assure your readers that it is well worth their time. It gives them an opportunity of comparing the doings of one year with another, and shows the relative situation of their business. The way I manage is, always, as I rise from supper, to take my work book and diary, and note the transactions of the day. I will give a specimen:

July 9.—A wet forenoon—2 men hoeing corn—1 do. drawing wood. Afternoon, mowing and turning out hay. Expense, haying, 10*s*.

July 10.—Good hay day—men mowing forenoon—afternoon stirring and getting in hay—3 loads. Expense, $4,50.

In this manner I not only note down the doings of the day, but the value of labor performed in any particular business, as haying, harvesting, &c. My work book is kept in the following manner:

Aug. 20, 1833.

	Mon.	Tues.	Wed.	Thur.	Frid.	Satur.	Total.	
R. Roe,	1	½	0	1	1	1	4½	absent 1 1-2 day, sick
J. Doe,	0	1	1	0	0	1	3	at home 3 days.

I would not only certify to all "Ontario" has said in favor of farmers keeping a diary, but would add that by so doing, a habit of using the pen is acquired, and would hope that it might lead some of my brother farmers to give the public an insight into their affairs through the medium of your highly useful paper. O. P. Q.

For the Genesee Farmer.

Plants derive most of their Carbon from the air.

"E." doubts if plants derive most of their carbon from the atmosphere. He says, "Minerals of themselves cannot impart fertility." On what principle then would he explain the fact that some soils are PERPETUALLY FERTILE? The carbonaceous parts, under a system of severe cropping, are soon exhausted.

Is "the quantity of carbonic acid gas in the atmosphere *about the same at all times and in all places?*" Professor *Brande** says, "Atmospheric air contains other substances, which however, may be regarded as *adventitious*, and the quantity of which is *liable to vary*; of these carbonic acid [is one of] the most important—*varying in quantity from* 1 *to* 0.1 *per cent.*" This shows a difference of from 10 to 1; but Dr. *Turner*† makes it much greater. He says, "Carbonic acid never exceeds 1 in 100 parts [of the atmosphere] provided there is a free circulation of air; and generally amounts only to $\frac{1}{1000}$ or $\frac{1}{2000}$ of the whole." I leave "E." to draw the inferences.

There are *several kinds* of prairies in the west; and all have *not* "a herbage whose roots form a perfect matting (as "E." supposes) upon the surface." One of the most fertile, has for a long period been checkered over with *naked spots*, situate between bunches of perennial weeds and of course grass. Its *blackness* is almost the only thing that would lead us to suspect the presence of vegetable matter, which however, is a fallacious guide; and this becomes evident when we subject that soil to experiment. On removing the sand, and burning the finer parts, it loses very little in quantity, and from *black* turns to a *reddish brown*. It therefore cannot be much indebted for its extraordinary fertility when cultivated, to carbonaceous matter. 'One crop of corn would contain many times as much carbon as had previously existed in this soil.'

Plants are not equally healthy in all soils; and if not healthy on the Hempstead sands, they cannot flourish, though food may be presented by every particle of air that approaches. The richest pastures will not fatten a sick ox.

Does "E." believe that plants feed on "organic matter?" If so, what are the *proofs*, independent of speculation and conjecture?

Some meadows are mowed for a long series of years; tons after tons are carried off, and no manure returned to supply the waste; yet these meadows are not impoverished, and no diminution of their fertility is observable. The soil contains as much carbonaceous matter as it did at the commencement; and we can only refer to the atmosphere as the grand store house from which vegetation has drawn its supplies.

It is obvious to common sense that a reservoir which is constantly receiving, must approximate towards fullness, except it has some vent or outlet. Now the atmosphere is a reservoir into which carbonic acid gas is continually pouring from almost every part of the earth's surface—from combustion, from respiration, and from fermentation; yet there is no reason to believe that it now contains more than it did two thousand years ago. Where then is the outlet to this reservoir? "*The only known process*," says Dr. *Turner*,* "which tends to prevent an increase in its proportion [of carbonic acid] *is that of vegetation.*"

AN OBSERVER.

* Manual of Chemistry, N. Y. edition, pp. 110—135.

† Elements of Chemistry, Philad. edition, p. 127.

For the Genesee Farmer.

Maple Sugar.

As the season for making sugar has arrived, perhaps a few remarks will be acceptable on the subject. I saw some remarks on the subject in vol. 3 of the Farmer, which I think are not altogether judicious.

The method I would recommend, and which I have practiced, is this:—I have a small sugar orchard of about 150 trees. I boil my sap in what is generally called a cauldron kettle, and a small one, say to hold eight or nine gallons. My practice is to begin to boil in the morning and keep filling up till I wish to stop—then boil it down quite thick, say three gallons to 20 lbs.—then dip it out of the kettle into a pail—set it away to stand till the next morning,—then strain it through a piece of flannel, being very careful not to turn out the sediment at the bottom—then put it into the small kettle, hung between two logs—then with dry wood, split fine, I build a fire as hot and quick as possible, taking care to have the sides of the kettle get hot, then raise the fire under the bottom till it gets nearly done—then remove it to prevent its burning. In this way, you may boil down 20 lbs. in 15 or 20 minutes. Before I practiced in this way, it took me about half a day to boil it down. I think it a great improvement.

If you think these remarks worthy a place in your valuable paper, you are at liberty to publish them. M. E. S.

P. S. Sugar made in this way will be destitute of sand, and of every thing else but the juice of the maple.

For the Genesee Farmer.

Straw Cutting Machine.

Thrashing is now very generally performed amongst us, by horse power; and there are two other operations on a farm which ought to be managed in the same way: the sawing of wood, and the cutting of hay and straw for provender. Will your correspondent "L." be so obliging as to inform me through the medium of this paper of *the price of Stafford's Patent Straw Cutter?* It is presumed that the same Portable Horse Power may be employed in succession, in thrashing grain, sawing wood, and cutting straw.

A FREEHOLDER.

* Elements of Chemistry, p. 146.

For the Genesee Farmer.

Buffalo Society for the Detection of Thieves.

Mr. L. Tucker—A statement of facts in regard to thieves and trespassers, may not perhaps be considered as purely agricultural. Yet I have thought that a brief statement of the operations of the "Buffalo Society for the detection of thieves and trespassers," may be of some service to our agricultural brethren.

Our society was organized last June. Our principal object was to guard our orchards and gardens against the depredations of lawless trespassers. The summer and autumn passed with but trifling depredations on our property. But early in January a valuable horse was stolen from the writer of this article. Pursuit was made in every direction, handbills were circulated, &c. All the individuals sent in pursuit, returned without gaining any information from the thief or horse. We now sent advertisements, and wrote many letters to Post Masters and others, in various directions, to the distance of from 50 to 100 miles. Also advertised largely in the public papers. But it was just one week from the time the horse was taken before the thief was arrested.

It appears that the thief stole the horse about 9 o'clock in the evening—rode 23 miles, and then stole a cutter, harness, (except collar) buffalo skin, and blanket—drove on a few miles farther and stole a collar and a fine string of sleigh bells, and before day light was upwards of fifty miles from Buffalo. The next day lay by, probably secreted by some of the gang. Two days after was in Smithport, Pennsylvania—traded the horse away for another—sold the cutter, harness, &c. and then like an honest rogue returned to the south part of this county, where he was arrested. The prisoner is a very enterprising man, and has the appearance of a gentleman.

The prisoner's trunk has been secured, and numerous letters of his associates have fallen into our hands. Some of them relate to large amounts of counterfeit money that have passed between them. One sett of dies for manufacturing half dollars has been secured, and we have it from good authority that four other sett are among this combination of thieves. Another of the gang has been arrested—in his possession were found several stolen buffalo skins, which have been identified by the owners—also three large rolls of wire screnery, perhaps in all 200 feet, supposed to be stolen.

Three horses, stolen and sold last autumn by this gang of thieves, have within a few days been given up to their respective owners. Several horses supposed to be stolen are yet in the possession of certain individuals. Persons who have had horses stolen would do well to send an advertisement describing the same to Mr. C. H. Brown, constable of Sardinia, Erie co., N. Y., to whom with several others we are indebted for their unremitted exertions in breaking up this gang of thieves. It would appear that they have carried on a wholesale and retail business, and what may appear surprising is that we have good reasons to suspect that more than one individual holding important civil offices, have aided and abetted, or have been accessary to their depredations. Neither is this supposition founded upon slight evidence.

Let societies and individuals spare neither time or expense in bringing to punishment all that shall commit depredations on their property, and soon this thieving business will become extremely unprofitable. B. HODGE, Jr.

Buffalo Nursery, Feb. 1834.

For the Genesee Farmer.

Climate of the Genesee Country.

I wish to inform T. S. P.—whose judicious directions for the culture of the melon I much approve,—that the climate of the Genesee Country is favorable to the production of this fruit. Some years however, are more so than others. In the last, I was not so successful as usual, yet I produced some of great excellence. One of my neighbors not long since, grew a water-melon that weighed 26 pounds.

The length and severity of our winter affords no evidence against the heat of our summer; and it is probable that the latter season will bear a favorable comparison with those of the same parallels in Europe. Dr. *Clarke* in his Travels in Russia, describing the productions of Woronetz, which lies near the completion of the fifty second degree of north latitude, says, "Nature is so bountiful in summer that plants found in very southern latitudes, grow here almost without care. The *water-melon*, so rarely in perfection any where, is as common at Woronetz as the cucumber in England, and flourishes in the open air." The cool summers of England, caused by its vicinity to the sea, made those of Woronetz by comparison appear so remarkable to that traveler; but our lakes are not sufficiently capacious greatly to moderate the heat; and besides we are nine degrees nearer to the equator.

Another circumstance respecting our climate may be mentioned. Some years ago, it was contended by a part of our population, who had only tasted the sour Indian peach, that this country was unsuited to its growth; and that its finest flavor was the production of a lower latitude. On the introduction of *better varieties* however the tune was turned; and I am now prepared to give my deliberate opinion, after being acquainted with it to the south, that *many varieties of the peach, attain the highest perfection in the Genesee Country.* The Heath is an exception; and the Blood Clingstone may be another; but these rarely ripen before the nights in autumn become cold. A Practical Gardener.

P. S. Would R. M. W. be willing to pour a little mercury into a sauce-pan among plums or apricots when his cook was going to stew them? Or into a pie before it was put into the oven?

For the Genesee Farmer.

Balm of Gilead Poplar.

In turning over the pages of the Encyclopedia Americana a few days since, I noticed the following:

"The heart-leaved balsam poplar, commonly but improperly called the *Balm of Gilead*, (*Populas candicans,*) is frequently planted before houses in the New England states, but has not hitherto been found growing wild in our forests, and its origin is uncertain."

More than twenty-five years since, when the country in the vicinity was entirely new, I saw on the east bank of the Otisco lake, near where the village of Amber now stands, a tree of the kind spoken of in the Encyclopedia, which had every indication of being a native of the forest in which it grew. It was 60 or 70 feet in hight, and perhaps two feet in diameter. No white person could have planted it, and the Indians were not then, or now, in the habit of troubling themselves in such matters. If it was not a native I should be much gratified to learn how it came there. W. G.

Otisco, February, 1834.

For the Genesee Farmer.

"The Singular Fact."

To doubt is the beginning of wisdom
Somebody.

Mr. L. Tucker—The very generous offer of the letter writer of the 15th of Feb. to pay my subscription to the Genesee Farmer, five years, serves to convince me that he is more liberal with his cash than with his reasons. Having but little of either to spare, I will not draw needlessly upon my purse or my brains. I have not tried, nor seen the fish story tried, but I verily believe it to be founded in truth.

1. Because I have read it years ago in a credible author, but cannot at present give my authority.

2. Because I have heard it often said that live fish would add nothing to the weight of a tub of water.

3. Because our fishing smacks when prepared are sunk as deep in the water as when they are loaded with 10,000 pounds of live sea bass or cod fish. Not a hair's breadth difference is perceived before or after the live fish are put in.

4. Because in Pneumatics and Hydrostatics it is an axiom that fluids press equally on all sides—that the pressure upward is equal to the pressure down, and that the spring within is equal to the pressure without—as a man of ordinary stature, say 14 feet superficial measure, is said to sustain 30,240 pounds; but the pressure being equal on all sides, he is kept in equilibrium, and is insensible to this immense weight which would crush him instantly but for this equal pressure.

5. Because water is a fluid as well as air, and the same laws apply to it. If, therefore, the pressure upward is equal to the pressure down, a live fish, balancing himself in water, will add nothing to its weight.

These reasons have induced me to give credit to the fish story, and my faith is not changed by the prompt and flat denial of the letter writer. The experiment is easily tried; and if on trial it be found true, then we may conclude that many things are possible which have not been usually thought of in our philosophy. R. M. W.

March 9, 1834.

Notices, &c.

Cattle.—To make room for the communication of *Ulmus*, on this subject, we have been under the necessity of deferring *Quercus'* fifth number till next week.

Errata.—Page 10, col. 1, last line in the article on *Sun Dials*, for *gloom* read *gleam*—Page 53, col. 3, last line but one of the article on *Rotation of Crops*, for *primitive* read *granitic.*

☞ Several communications have been received, which shall have an early insertion.

No English newspapers are allowed entrance into Sardinia.

For the Genesee Farmer.

Cattle, Domestic and Foreign,

WORKING OXEN, &C. &C.

I am happy to find that my communication, published in the Farmer a few weeks since, on the subject of "*improved* cattle," has been the partial cause of drawing out the valuable essays of the editor of this paper, as well as the truly excellent article of "R.," whose observations show him to be a veteran in the science of "Short Horns," and a shrewd observer of fine animals. I anticipate also much instruction from the remarks of "Quercus," whose introductory article on this important subject I have just seen. That these efforts to awaken our farmers to a proper estimate of the value of improving the breeds of their domestic stock, may be crowned with success, is my most fervent wish. Numerous testimonials from abroad indicate the increasing demand for fine animals of the improved breeds; and I confidently believe that ere five years pass away, many of our enterprising agriculturists will be fully convinced of the evident superiority of these over the *common breed* of *this part* of the country.

It is the habit of many farmers, and a vile one too, for even our best people have some faults, to ridicule any one among their acquaintances who ventures to expend a few extra dollars to introduce a valuable improvement among them. What the object is I know not, unless it be an unwillingness to admit a superiority of judgment or enterprize in their neighbor, or in the supposition that all knowledge is wrapped up in their own dear selves. But so it is; and I have seen so many instances of this mischievous and unprofitable propensity, that I have almost made up my mind, that if any one man wishes to excite the envy and ill will of his neighbors, let him but only introduce a valuable horse, bull, sheep, or other improvement on to his farm, and he will have it to his heart's content.

I well recollect many years since, when an enterprising individual purchased a fine Merino buck and brought into his neighborhood for the use of his own flock and those of his friends if needed, what a general sneer there was among those who came to see him. How they ridiculed his deficient size and crusty coat, and how they called in derision every thing his owner possessed, even to his unoffending children, "Merino!" and in the fullness of their spite, turned the veriest scape goat of a ram to be found, among their own ewes, to show their utter contempt of their neighbor's "hundred dollar Merino." Time however passed on, and the next season numerous respectable gentlemen and farmers were often seen calling at the house of "Squire Merino," to buy his buck lambs, which readily sold at high prices; so much indeed, that his "hundred dollar Merino" was thrice paid for before the fall came round again. About this time, one or two of the more still and observing, but not less doubting ones, shyly proposed letting two or three choice ewes pass the autumn in "Squire Merino's" flock, although they "hated peskily" to pay two dollars for putting their ewes to such a "humbly looking critter." However, they had heard so much about "these ere new fangled Merinos," they ventured to try it. The next season our "Squire Merino" had a fine young flock of three quarter blood lambs, and his young bucks went off at better prices than before. The clip of wool from his half bloods had also been sold to the factories for double that of his neighbors, who looked *sheepish* enough as he rode by them, waggishly leering out of each eye, "let him laugh who wins." But such as had been so profuse in their ridicule could not go up to him like men, and confess their error, and purchase of him a buck for their own flock, but would sneak round and turn their sheep (their own ram having met with *some accident or other*,) into a lot adjoining his, and carefully let off a stone or two from the division wall, and in a day or two after, when "Squire Merino's plaguy unruly ram had jumped over the fence and disgraced the flock" would all of a sudden find it out and make a great clamor about it; as though they were *too honest* to *steal* what they had not the manliness to buy, or even beg. In a little time, however, their flocks "had got so mixed by their neighbor's unruly rams, and poor fences," that it was of no use to try to keep the "old sort of sheep" at all. I observed, by the way, that when their sheep were selected for sale or fatting, the "merinos" staid behind. This is a true story, and will no doubt be responded to by numbers of my readers.

So it has been in many cases with cattle. The gentleman from whom I purchased my improved Short Horn bull, told me that when he imported his grand mother from England, and soon after sent her and a fine bull calf up to his farm in Vermont, many of the neighbors there who had continually sneered at the "London cow and calf," had the meanness, after the young bull was kept for service, to turn their cows into the pasture where he was kept, at night, and still slander the noble animal while stealing his progeny. All men, and all farmers, will not do these things; neither do I believe many will; but some have done so. Yet many of our good people who are quite rational on most things, have a fixed antipathy to all improvement, and thus set their faces against every thing, for fear they may once in a while be imposed upon.

This is the great impediment against the introduction of the finer breeds of cattle, horses, sheep and pigs among our farmers. They don't examine the subject thoroughly and candidly. If they did, they would certainly avail themselves of the frequent opportunities they have of getting choice animals which continually pass by them.

And one great error among many of our stock farmers let me here remark: *It is the prevailing opinion, that a bull is only in his prime from one to three years old.* Whereas the truth is, *a bull is never fit for good service till he is past two;* and is declared by the *best judges, and most experienced breeders, to be in his best stock getting condition at from three to eight or nine years old.* In this very error then, we see the greatest impediment to the production of a fine race of cattle, even in our native stocks; for if a bull prove a valuable stock getter, he is either killed or driven away before the good qualities of his descendants are appreciated, and his future services are lost. Another difficulty is, bulls are usually suffered to run at large with the other cattle of the farm, and at the age of two or three years grow mischievous or cross, and are then dispatched short hand, because they are troublesome. Now with me, these very qualities would be an indication of his courage, spirit, and constitution; for a healthy, strong, and *idle* animal, of whatever species, will be quite apt to find some kind of employment, and as a matter of course, not very useful. Some folks can plough three or four acres of ground, and plant, hoe, husk and market the corn that grows upon it, and exchange it all for whiskey, and then drink it, a curse to soul and body, or other things equally absurd; but to be at the trouble of putting a hook and light halter chain in the nose of a bull calf, and keeping him in the stable with twenty minute's trouble a day, is a trouble not to be borne, even if the value of the stock on the farm be increased three hundred dollars a year by it!

Now is this not a matter of fact? Yes, in nineteen cases out of twenty. Is it then surprising that we see no better stock in the country? "But," says the stock breeder, "I cannot afford to pay one, two, or five hundred dollars for a bull for the use of my stock; I can't get the money." All very true; but you can look around and find the best one *within the reach of your means to purchase*, even if it be of native breed; for I by no means take the ground, that the *best stock of American cattle* are not the most useful as well as profitable for *many of our people* to keep. I leave that question to the judgment of each one who seeks for information on the subject, and only wish him to improve the advantages *within his control*. Another thing; *when you sell your cattle, always keep the best cows and the best bull* on the farm; sell only those which are not desirable to breed from, unless you have more than you want. Some men will always sell the best cows they have because they bring a better price, and so keep the poor ones for their own use. To such I can say, you will shortly have no good cattle to sell. The farmer who parts with a fine cow, a good breeder and milker, parts with his actual capital for half its value. *She is as easily kept as a poor one, and her profit is double;* and let him recollect, that if a breed be valuable at all, he should get the blood as high as possible with all dispatch. A full bred animal is worth four times as much as a half blood; and but little dependance can usually be placed on the stock produced from mongrel animals; for should his stock inherit his native blood instead of his improved, which is an equal chance, his value is infinitely lessened. There is no *certainty* about it. Therefore, I repeat, if the blood be valuable, let it be as high as possible. Hence the value of "Herd book animals," or those of good and approved pedigree, so effectively laid down by "R." in his excellent remarks.

As the different breeds of cattle are in the course of discussion by an able writer for the Farmer, I shall now leave the subject, and remark somewhat on working oxen, a most valuable and efficient branch of the agriculture of our state. Of their comparative superiority to the horse as a beast of labor, I have little to say. Farmers indulge different opinions on the subject. That horses, on light, smooth and strong grain lands, where they are much wanted for the plough and the road, are most profitable, I will admit; but on the great mass of our farms, for ordinary labor, for the main purposes of utility and ultimate profit, oxen are beyond doubt altogether the best animals for the farmer.

As I now claim admittance among my breth-

ren of the soil as a farmer, I can occasionally speak somewhat from my own experience, and shall therefore on this occasion record the observations of the present winter on my working oxen. I have now twenty yoke of prime cattle steadily employed on Grand Island. I commenced in the month of November last with four yoke, without a barn or shelter of any kind, not a lock of hay, nor a kernel of grain for their use. A small pasture field of good late feed was all they had for a fortnight, and they worked laboriously every day. But shortly we had a large and comfortable log barn built for them, with a good granary full of wheat shorts, Indian and oil cake meal, and abundance of hay for their winter's provision, and a good smith's shop to furnish shoes, repair chains, yokes, &c. As our labor increased, the number of cattle was augmented till the twenty yoke were obtained.

When I first started to purchase my cattle, I sent out into the country by a neighbor, a good judge of cattle, to buy me the first four yoke, and he soon returned with them, all young, stout, thrifty and first rate cattle; none over six years old, and every ox better beef than the average of cattle killed in our markets. Some of my friends who saw them advised me not to take them to the Island, being altogether too fat to work, and not able to stand the hardships of the place, the heavy work and hard fare. Others advised me to buy none but ordinary cattle, accustomed to hard labor, rather lean in flesh, and cheap in price. These they believed to be the most profitable. In fact, I was so far prevailed upon as to buy afterwards three yoke of just such oxen, that had seen hard times, were low in flesh, and tolerably homely to boot. I bought them for chore cattle, to do little odd jobs, such as drawing lime, stone, sand, brick, timber, &c. for the builders, and wood for the dwellings, as we were building several houses, shops, stores, &c. How they turned out we shall see. After I began to buy cattle, it was soon rumored that I would purchase working oxen, and of course every one who had any thing of the kind to sell applied to me; and most of them supposing me a regular green horn, brought forward their miserable, rickety, strained, and wind broken animals, with ample recommendations of their speed, activity and strength, and other wonderful qualities. I sometimes *looked* at their cattle, but they very soon ascertained it to be a thankless business to bring in worthless cattle for my purposes. The tables now turned, and many fine, beautiful, straight, and well formed cattle were brought in, of which I purchased occasionally till our number was made up; and now I have, without boasting, the finest lot of working oxen that I ever saw. But they are selected from the whole county, and it is said that I have every yoke of *crack* oxen in the county.

The labor in which they are employed, is hauling heavy oak timber, in sticks of 12 to 30 inches square, and of 15 to 70 feet long, for various distances of twenty rods to three miles. Of course, none but heavy, stout cattle will answer the purpose. The rules that I have adopted in selecting oxen are these: A fine head; prominent, clear eye; clean, taper horn; broad, round, and deep chest; handsomely made as could be found; straight on the back; broad hips; deep, well rounded thighs; high, small, and round tail; and well spread, sound feet; and in flesh, good beef; and lastly, of a dark color. I give the cost, average girt, and color of a few pair:

No. Cost.		*Years old.*	*Girt.*
1—$85—	Bright red, high boned, large horned, well matched....	6—7	ft.6 in.
2—$85—	Bright red, smooth, large horned, well matched....	6—7	.2..
3—$85—	Slate dun, smoth, short legged, short horned,.....	7—7	.4..
4—$85—	Near ox deep red, beautifully formed, fine medium horns.....	5—7	.2..
	Off ox light red, well made..	5—7	.0..
5—$85—	Near ox deep red, well made fine medium horns.....	6—7	.0..
	Off ox fine brindled, well made.....	6—7	.0..
6—$85—	Black, with brockled faces, fine high horns, (twins)...	6—7	.4..
7—$80—	Brown, with a few white marks, high horns, (twins)	5—7	.0..
8—$75—	Bright red, and smooth built fine horns.....	5—6	.10.
9—$70—	Deep red and white, beautiful forms, active, clean horns.....	4—6	.9..

The remainder are all fine oxen, from 4 to 6 years old, and worth $75 to $100 as beef per yoke

These specimens I give as a sample of the quality, price, and color of fine oxen, in this part of the state; and they may be taken as a fair average of the best cattle. They were all in high flesh with the exception of No. 1, when I purchased them, and they have not lost a day's work, and have continually improved. These, and the slate colored duns, No. 3, are considered the best we have, with perhaps the exception of No. 5, which, although not equal in strength, are unrivaled for smartness. They work in teams of two to six yokes each, and draw the timber on heavy bob-sleds. The teamsters are selected for their care, good temper, experience, and fondness for cattle; for it is a rule with me, that no one can manage a team well, who is not naturally fond of oxen. The cattle are rarely whipped, hardly ever; and they work with an activity, cheerfulness and honesty truly astonishing. Every ox is fat. The thin ones have gained flesh, and the fat ones hold their own, although many prophecied that they were too fat to work, and would fall away, and fail altogether. But this experiment has only convinced me that oxen which have a good capital of flesh to begin with, can better withstand hardship, and endure labor, than poor and overwrought animals, even on the same keeping. My chore cattle, after recruiting for some days before they were put at work, cannot now do near the labor of those in high flesh, although of less size. In truth, compared with the others the cheap cattle are not worth half price.

They are fed thus: At night, after returning from their labor, they are watered at the river, and put into the stable and tied up; the yoke and chains of each team hang on a pin behind them in the stable. A little hay previously thrown into the mangers by the feeder, (for a man is kept for the especial purpose of feeding the teams and taking care of the barn) is then eaten. After supper, the teamsters go to the barn, and each takes his card or curry comb, and smooths the hair of his oxen, and rubs them clean; then each ox has a peck of meal laid before him in a box, of the following mixture: 5 quarts wheat shorts, 3 pints Indian, and 3 pints of oil meal. In twenty minutes the boxes are emptied, when they are all taken out and packed up. A little lock of hay, say one or two pounds, is then given each one, which is soon eaten, and in half an hour every ox is laid down to rest for the night. At five o'clock next morning, the same process of feeding is repeated before breakfast; and after breakfast, which is by the time they can see, the teams are all yoked, driven out to the river to water, and then placed in their usual ranks and proceed to business. At noon they are slightly baited with hay while the men are at dinner, and then they work till night. They are kept constantly shod. If a shoe is lost, the ox is forthwith taken to the shop to have it replaced. If one be lamed, strained, or any accident befal it, which is sometimes the case, he is immediately discharged from work, *put into hospital*, as we call it, well nursed and attended till he is fit to labor again. During such times the odd oxen are as well paired as we can make them, and still kept at work. Some of these cattle, indeed many of them, have not lost a day's work all winter, and only one ox of the whole has proved a failure, and that from his feet not being sufficiently tough to hold his shoes. But he was excellent beef, and cost but $75 for himself and mate, and netted $50 in his carcase alone.

Now these oxen are all hearty and well, in good condition, and will doubtless perform three years more labor. A good feed of potatoes is occasionally given them to cool and loosen their system, and salt is daily mixed with their food. When the spring opens the ground, until it is thoroughly settled, I propose to take off their shoes, turn them out for three or four weeks, grain them rather less, and let them ramble about the woods for diversion. They will then be taken up again for the season's labor, and stabled and fed as during the winter.

The results of my experience with oxen thus far have much exceeded my expectations. They consume less food, perform more service, and are much less expensive in their tackle than horses, for the business in which they are engaged. Oftentimes oxen are worked in misshapen and defective yokes. Too much pains cannot be taken to have them made of the right shape, with broad neck pieces, and well shaped stout bows. Cattle are often much abused in this particular. Stables, too, are often defective. My oxen are never suffered to lie down in filth. Their stable floor is so arranged that their urine runs off into a plank placed three inches below the floor, on which they stand, and which also receives the manure as it is dropped; and each one when he lies down to rest, has a clean plank floor for his reception, and as they are confined in stanchells, have no opportunity to get dirty.

Were I now to express an opinion as to the most preferable color for oxen, as relating to hardiness, strength, bottom, &c. I should say that I candidly do not know which has the preference. We know that a rich red is the most valuable color for cattle. But I confess that were I to select working oxen, my choice would much sooner be decided on the good form, appearance, and valuable points of the animals, than on the color. Among my own oxen, I do not think that color affects the quality of the animals, if the good points

in them are equal. One of the best oxen we have is mostly white, with a sprinkling of brindle. Yet the slate colored duns, designated as No. 3, appear to be the toughest and best cattle on all accounts we have. They have rather a buffalo look about the head, their horns are shorter and thicker (not stags) than the others, and they appear to be made up of bone and sinew. Indeed, that color of cattle are usually very hardy and strong. These were raised in the town of Porter, Erie county, both sired by the same bull, and calved on the same farm. The bull was said to be a very good one, and colored like the oxen; but in obedience to the prejudice of the owner, after having served a season or two, he was either killed or sold and driven away, perhaps the most valuable animal ever in that town. I only regret not being able to get some of that stock, which, if I had it, I should endeavor to preserve in its purity. They are not the common breed of cattle. The cows are said to be excellent for milk, and very hardy. Their hair has a thickness, and a curly and furry appearance not usual in ordinary cattle. Their legs are short, but their bodies deep and heavy.

After all, for mere *working cattle*, it may admit of a doubt whether we can derive much benefit from adopting either the Devon or Durham breeds in preference to our *best native stock*. I must say, and I do so from a conviction of the great evils resulting from the practice, that even our own native cattle have not had a fair trial among our farmers. To follow the question out to a desirable result, our *best stock* should be selected as breeders; the bulls should be kept till the character of their stock is proved; and if good, kept on till no longer fit for service.

Still to the cattle breeder, to the farmer who depends on the drover and the butcher for the sale of his cattle, I am confidently of opinion that he will receive great and immediate benefit from a cross of the Durham or Devon blood. Farmers do not work their oxen on an average more than one third or half the year. It is therefore of less consequence to them whether they be of the greatest speed or vigor, although I believe the Devons to be equal to all purposes for labor. What the farmer wants is profit. To constitute this in the animal, must be combined good color, of this red is most valuable, beauty and proportion of form, *and good points all over*. These are possessed by both Devons and Durhams in an eminent degree; and as in them are concentrated what we wish to obtain in our native cattle, it is no doubt the part of wisdom at once to adopt them.

ULMUS.

P. S. I hope we may be favored with the further essays of "R" on this interesting subject.

STATISTICS OF POLAND.—According to a statistical account of the kingdom of Poland for the year 1832, the population then consisted of 3,914,666 souls; of which 1,933,390 were males, and 1,981,275 females:—3,236,513 were Catholics; 106,986 of the Greek Church; 177,806 Lutherans; 3,815 of the Reform Church; 384,038 Jews; and 5,568 of various other religous opinions. Warsaw contained 124,868 inhabitants, being 6,613 less than in 1827.

300,400 bales of Cotton were imported into France during the last year. In 1832 they were only 260,600.

Address of Judge Buel,

Delivered before the N. Y. State Agricultural Society, at the annual meeting, Feb. 12, 1834.

We have associated, gentlemen, to increase the pleasures and profits of rural labor—to enlarge the sphere of useful knowledge—and, by concentrating our energies, to give to them greater effect in advancing the public good. In no country does the agricultural bear so great a proportion to the whole population as in this. In England one-third of the inhabitants only are employed in husbandry; in France two-thirds; in Italy a little more than three-fourths*—while in the United States the agricultural portion probably exceeds five-sixths. And in no country does the agricultural population exercise such a controlling political power, contribute so much to the wealth, or tend so strongly to give an impress to the character of a nation, as in the United States. Hence it may be truly said of us, that our agriculture is our nursing mother, which nurtures, and gives growth, and wealth, and character to our country. It may be regarded as the great wheel which moves all the machinery of society, and that whatever gives to this a new impulse or energy, communicates a corresponding impetus to the thousand minor wheels of interest which it propels and regulates. Knowing no party, and confined to no sect, its benefits and its blessings, like the dews of Heaven, fall upon all. Identified then, as agriculture is, with the interests of every department in society, it becomes *our* profession, in particular, to endeavor to enlighten its labors, to remedy its defects, and to accelerate its improvement.

Of the multitude of objects which present themselves as worthy of our consideration, I can only embrace a few of the most prominent ones in the subject matter of this address. I shall particularly invite your attention to

The economy and application of manures;

The improvement of farm implements and machines;

The advantages of draining;

The defects which exist in the present mode of managing our hop and barley crops;

The division of labor;

The introduction of new articles of culture; and

To some illustration of the comparative profits of good and bad husbandry

MANURES.

If we consider that all animal and vegetable substances are susceptible of being converted into manure, or food for farm crops, and reflect upon the great quantity of these which are wasted upon a farm; and if we add to these considerations the fact, now well established by chemical experiment, that yard dung loses a large portion of its fertilizing properties, in the gases which escape, where fermentation is suffered to exhaust its powers upon it in a mass, we may be able to appreciate, in some measure, the great defects which exist in our general management of this all important material. Manures are a principal source of fertility. They are to our crops what hay and forage are to our cattle—the food which is to nourish and perfect their growth. Continual cropping, without manure, as certainly exhausts land of its fertility, as constant draining from a cistern that is never replenished, exhausts the water which it contains. The practice of some, who, disregarding one of the soundest rules of farming, continue to crop without manuring, till the soil will no longer yield a return to pay for the labor, is upon a par with that of the man who undertook to teach his horse to live without food: just as the experiment was about to succeed, the horse died. A considerable portion of the lands in Virginia and Maryland, which were originally fertile, have in this way been injudiciously exhausted, and thrown into commons as not worth enclosing. I lately received a letter from a young gentleman in the former state, soliciting my advice as to the means best adapted to restore fertility to two worn out farms which had recently come into his possession, and which, he stated, would no longer produce clover. It is much easier to prevent sterility than to cure it, on the same principle that it is easier to *keep* a cow in flesh when she is so, than to *restore* her to flesh after she has become wretchedly lean. In some soils, to which nature has been uncommonly bountiful in imparting the means of fertility, as in many of our river alluvions, the deterioration is slow and imperceptible; yet it nevertheless goes on even there. But in ordinary, and particularly in the lighter soils, the profits of husbandry depend, in an eminent degree, upon the faithful application of all the manure which a farm can be made to produce.

In regard to the question, in what condition are manures most economically applied, I am sensible that a difference of opinion exists, many contending, even on philosophical grounds, that it is most wise to apply them after they have undergone fermentation. If the question was merely, whether a load of fermented or unfermented dung is of the greatest intrinsic value, in ordinary cases the former would be entitled to the preference, because it contains the greatest quantity of vegetable food. But the correct way to state the question would be this: Will *five* loads of rotted manure impart greater fertility than *ten* loads that are unrotted? The numbers ought rather to be five and fifteen—for I think common dung suffers a diminution of two-thirds, instead of one-half, in volume, by a thorough process of rotting.* It will assist in determining the question if we ascertain what the manure parts with during fermentation, for it evidently loses much in weight as well as in bulk, and whether this lost matter would, if buried in the soil, have afforded food to the crop. For if it possessed no fertilizing property, the sooner it is got rid of the better, and we save the expense of transporting it to the field. But if it really consists of prepared or digested food, fitted for the organs and wants of plants, it is truly improvident to have it wasted and lost for all useful purposes. The latter is really the case.† The matter which escapes in fermentation is vegetable matter in a gaseous form, fitted by natural process, like chyle in the animal stomach, to enter into and become a constituent in a new generation of plants. It is principally carbonic acid gas, the aliment of vegetables and the true staff of vegetable life. It has been vegetable matter, and will become vegetable matter again when brought into contact with the mouths or roots of plants. Without resorting to chemical proofs or authorities to prove this, I will suggest a mode by which the matter can be satisfactorily settled. Let any farmer, in the spring, before yard manure ferments, put twenty-five loads in a pile to rot, and take another twenty-five loads to the field where he intends to plant his corn, spread it upon one acre, plough it well under, harrow the ground, and plant his seed. Let him plant another acre of corn along side this, *without manure*. As soon as the corn is harvested, carry on and spread the twenty-five loads of prepared or rotted manure left in the yard, or what remains of it, upon the acre not manured for corn, and sow both pieces to wheat. Unless my observation and practice have deceived me, he will find the result of the experiment to be this: the acre dressed with long manure will yield the most wheat, because the manure has been less exhausted in the process of summer rotting, and for the reason, that in cultivating the corn, it has become better incorporated with the soil—*and it will, besides, have yielded some twenty or thirty more bushels of*

* Babbage on the Economy of Machinery.

* During the violent fermentation which is necessary for reducing farm yard manure to the state in which it is called *short muck*, not only a large quantity of fluid, but of gaseous matter is lost; so much so that the dung is reduced one half or two thirds in weight, and the principal elastic matter disengaged is carbonic acid, with some ammonia; and both these, if retained by the moisture in the soil, as has been stated before, are capable of becoming a useful nourishment for plants.—*Davy.*

† As soon as dung begins to decompose, or rot, it throws off its volatile parts, which are the most valuable and most efficient. Dung which has fermented so as to become a mere soft cohesive mass, has generally lost from one third to one half of its most useful constituent elements. It evidently should be applied as soon as fermentation begins, that it may exert its full action upon the plant, and lose none of its nutritive powers.—*Davy.*

corn, in consequence of the gases upon which the crop here fed and thrived, but which in the yard were dissipated by the winds and lost.

Plants, like animals, require different modifications of food. In general, the plants which afford large stalks or roots, as corn, potatoes, turneps and clover, thrive best on the gases which are given off from dung in the process of fermentation—while those exclusively cultivated for their seeds, as wheat, barley, &c. are often prejudiced by these volatile parts, which cause a rank growth of straw without improving the seed. Hence the first mentioned crops may be fed on long manure without lessening its value for the second class, provided they immediately follow, and hence unfermented manures are most economically applied to hoed crops.

Different rules should govern in the application of fermented and unfermented manures. The latter should be buried at the bottom of the furrow with the plough, the former only superficially with the harrow. The reasons are these—unfermented dung operates mechanically while undergoing fermentation, in rendering the recumbent soil porous and pervious to heat and air, the great agents of decomposition and nutrition, and the gaseous or volatile parts being specifically lighter than atmospheric air, *ascend,** and supply the wants of the young roots The next ploughing turns the residue of the dung to the surface, when it benefits on a different principle; for fermented manures consist of ponderable substances, which have a tendency only to *descend.*

Manures possess a high value in all good farming districts, where the natural fertility of the soil has been impaired by culture. In most of our large towns it is bought up at one to two dollars a cord, and transported ten or twenty miles by land carriage, and much farther by water. So essential is it considered in Europe to profitable husbandry, that every material which imparts fertility is sedulously economised, and applied to the soil. Among other things, ship loads of bones are annually brought from the continent into Great Britain, and ground for manure. Bone dust is in such high demand in Scotch husbandry, that its price has advanced to 3s 6d sterling per bushel.

We possess no certain data to ascertain the saving which may be introduced into this branch of farm economy; yet if we put down the number of farms in the state at one-tenth of our population, or 200,000, and estimate that an average increase of five loads upon each farm might annually be made, it will give us a total of one million loads, which, at the very moderate price of 25 cents, would amount to $250,000 per annum.

FARM IMPLEMENTS.

We must all have noticed the great improvements which a few years have made in the mechanic and manufacturing arts. Scarcely a process is managed as it was twenty years ago. Scarcely an old machine but has undergone improvements, or given place to a better model. Manufacturing operations have been simplified and abridged, and human labor has been reduced to a comparative cipher, by the substitution of machinery and the power of steam. The effect has been a great reduction in the price of manufactured commodities, and an increase in their consumption. We are assured that during the twelve years which elapsed between 1818 and 1830, Sheffield wares—hardware and cutlery—experienced an average reduction in price of sixty per cent, varying upon different articles from 40 to 85 per cent.† Cotton goods, books, and various other fabrics, have undergone a reduction no less remarkable within our time. These beneficial changes have resulted in a great measure from the aid which science has either itself imparted, or which it has elicited from mechanic skill—for a useful invention often awakens latent genius, and calls forth successful competition, even in the unlearned. No sooner is an improvement in the manufacturing arts announced, than it is adopted whenever it can be rendered beneficial—such is the facility of intercourse—such the desire—the necessity—*there,* of profiting from every discovery which benefits their art. The farmer is less able and less willing to keep pace with the march of intellect. He has few opportunities of becoming acquainted with the improvements of others, except by slow degrees; and he is so liable to be taken in by the catch-penny productions of the day, and is withal so distrustful of new experiments, that he will hardly venture to buy new implements, and machines, nor to adopt new practices, however beneficial they might prove on trial. Mr. Coke tells us that his examples in farming, (and few men ever gave better,) only enlarged the circle of their influence about a mile in a year. Hence, as regards this branch of improvement, we have much to do ere we can overtake the spirit of the age, as exemplified in our sister arts.

Many of our farm implements have undergone improvement; yet there are others which have been either but partially introduced, or are hardly known, that are calculated to abridge labor and to increase the profits of the farm. There exists a great disparity in the quality of implements. In ploughs, for instance, there is a difference which eludes superficial observation, particularly in regard to the force required to propel them, that is worth regarding. I have seen this difference, in what have been termed good ploughs, amount to nearly fifty per cent, or one-half. The perfection of our implements is intimately connected with a correct application of mechanical science, a branch of knowledge hitherto too little cultivated among us. Messrs. Many & Ward, the enterprising proprietors of an iron foundry in this city, have assured me that there are more than two hundred patterns of ploughs now in use in this state. Of this number some may be very good, but many must be comparatively bad. But what individual is able to decide upon their relative merits, or even to become acquainted with the different sorts? It would be rendering an important service to the state at large, and especially to the farming interests, if a competent board was appointed, comprising men of practical and scientific knowledge, to test thoroughly, by examination and perfectly satisfactory trial, not only the ploughs but the other implements of husbandry now in use, or which may be hereafter invented, and to publish the result of their examination, and certify their intrinsic and relative merits. Such board might meet once or twice in a year, and no inventor or vender who had confidence in the goodness of his machine would fail to repair to the place of trial. This would tend to call into action mechanical science and skill, in the confidence of receiving a just reward; the public would confide in the trial and opinions of the board; good implements would be extensively introduced and bad ones would be discarded. The expense of the examination would bear no proportion to the public benefit.

DRAINING.

Few expenditures in husbandry are calculated to make better returns than those made in draining, a branch of labor which has had a very limited practice among us, and of which we have yet much to learn. Many of our best lands are permitted to remain in a comparative unproductive state, on account of the water which reposes on the surface or saturates the subsoil. To render these lands productive, even for arable purposes, it is only necessary, by well constructed and sufficient drains, to collect and carry off the surplus water which falls upon the surface or rises from springs below. The rationale of draining is briefly this: Air and heat are essential agents in preparing the food of plants which is deposited in the soil, and they are also necessary for the healthful development of most of the cultivated varieties. These agents are in a measure excluded from the soil by the water. The temperature of a soil, habitually saturated with spring water from beneath the surface, seldom exceeds 55 or 60 degrees at midsummer. Hence the grains and grasses, which require a heat of 80 or 90 degrees to bring them to a high state of excellence, can never thrive in these cold situations, where they find neither the warmth nor the food suited to their habits. But drain these soils, and they become light and porous, pervious to solar and atmospheric influence, the process of vegetable decomposition is accelerated, and a high state of fertility is developed.

One of the modern improvements in draining, which tends very much to give permanency to the work, is to dig the trench with a spade adapted to the purpose, with a wedge shaped bottom, say three inches at the bottom and five inches at the upper surface of the lower cut, and to fill this part with broken stone. The trench is dug two feet deep before this cut is made, and the wedge shaped bottom cleaned with a scraper fitted for the purpose. By concentrating the water it acquires force, and keeps the passage open. And if broken stone is employed, not exceeding three inches in diameter, it affords no harbor for ground mice or moles, which otherwise get in and open passages to the surface, through which water and earth are apt to enter and choke up the drain. Drains of this description are very efficient and economical to keep the bed of a road dry, placed either at its sides or in the center, having a fall to carry off the water. A cubic yard of stone will lay about 120 feet of under drain of the dimensions above given, and 8 inches deep. The breaking of the stone will cost three or four shillings the cubic yard.

The acknowledged utility of irrigation, or of spreading, occasionally, the waters from streams or the highways over lands, has led to a misapprehension with many of the principles of draining. Irrigation is employed to furnish water to soils, generally slopes, where it is deficient, and from whence it speedily passes off, or to cover grounds in winter to exclude severe frost. The water thus employed is nearly of the warmth of the atmosphere, and is generally charged with fertilizing properties. Draining is employed upon flat surfaces, or upon slopes abounding in springs, where there is an excess of water, and of a temperature which materially chills and deadens the soil. Irrigation supplies water where there is a deficiency—draining carries it off where there is an excess. Both are intended, by opposite modes, to produce the same result—a suitable degree of moisture for the wants of the crop.

We have illustrations in abundance of the advantages of draining; and so apparent have been its benefits, in districts where it had a fair trial, that a knowledge of the science, for a science it may be called, is considered an important branch of agricultural knowledge. Upon one estate in Scotland, where the farmers are generally tenants, sixty-five miles of under drains have been made within a few years, at the joint expense of the landlord and tenant. The benefits of this expenditure have been—to the landlord, an additional 5s. per acre upon his annual rental—and to the tenants, a more than corresponding advantage in the increase of their crops. A gentleman who deservedly ranks high in this society, and who has been a pioneer in this branch of improvement, has assured me, in answer to my inquiries, that he has applied under draining to twenty different fields, to the extent of more than two thousand rods, at the average cost of fifty cents per rod; and that he has been fully remunerated for the outlay in every instance, in the increased products of three years. In some cases, he adds, where the lands produced coarse grass of little value, and where tillage was out of the question, he has expended twenty dollars per acre in under draining, and now grows upon these lands Indian corn, oats, wheat and clover, luxuriantly. The value of this land has been increased from twenty to one hundred dollars per acre, or five hundred per cent, by the operation of draining. I have had some personal experience in this sort of

* A friend made this experiment: He trenched a quarter of his garden, and deposited a layer of *dry straw,* three inches thick, one foot below the surface, as the only manure, and planted it with water melons. The crop, he said, was the finest he ever grew. On examining the straw in autumn, he found it was completely rotted, and reduced to the condition of short muck. He was satisfied that his melons had been highly benefitted by the straw while undergoing fermentation, and that had the straw rotted in the yard, the volatile portion of the manure would have been wholly lost.

† Babbage on the Economy of Machinery.

improvement, and have made it the subject of calculation, and am induced to believe that where stone is convenient, efficient and permanent under drains may be made as low, if not lower than what they cost my friend. A laborer accustomed to the work averaged ten rods per day upon my farm, for thirty days. The ground was sandy and soft. Other materials were substituted for stone, which would, had they been employed, have required more labor, though they had been prepared to his hands.

The benefits of under drains are not limited to lands which show water upon the surface. We may often notice at midsummer that some flat lands have a sterile and compact appearance, whose general aspect would indicate fertility. This is readily accounted for by supposing what is often known to be the fact, that the soil reposes upon a compact strata which prevents the descent of water, and which has not sufficient inclination to pass it off. This water chills the ground, retards the decomposition of vegetable food, and causes comparative infertility. This may be effectually remedied by parallel under drains, the space between them to depend upon the compactness of the soil, a drain being supposed to collect the water nine or ten feet on each side in the most tenacious ground. It is usual where fields are thus drained to make a cross drain along the upper side, and also one along the lower side, to receive and carry off the water which the parallel drains collect from the soil.

BARLEY AND HOPS

Are becoming important staples of our state, particularly of the northern and western portions. Few persons, I presume, have a just conception of the quantity which we annually produce, or the immense loss we sustain for want of better knowledge and more care in cultivating and preparing these crops for market. Our soil and climate are found to be well adapted to their growth, and we have produced as fine samples of both as are grown in any part of the world. Independent of an increasing home consumption, the hop in particular is always in demand for exportation. If in good condition, it is one of the most profitable crops to the grower that can be raised. If in bad condition, it is often a losing concern, not even affording a return for the labor bestowed in its culture.

Deeming the subject one of deep interest to the community, and as coming particularly within the province of this society, I have been at some pains to collect data from the best sources in relation to the barley and hop trade, with the view of submitting an abstract of the facts to your consideration.

Two-thirds of all the barley grown in the United States is believed to be marketed at Albany and the neighboring towns upon the Hudson. The amount brought to our market last year, is estimated at 450,000 bushels. It is of two kinds —two rowed and six rowed, one possessing a thin and the other a thick skin, and larger berry, ill adapted to be malted together, as one kind malts quicker than the other, and becomes sensibly deteriorated before the saccharine matter of the other kind is fully developed. The two varieties are often mixed by the grower; but that which passes through second hands, as the merchant, boatmen, &c. is almost universally so, and is besides frequently adulterated with oats and other foreign matters, which seriously depreciate its value. It is stated that the deterioration and loss consequent upon the bad condition of the barley brought to market the last season, was equal to ten per cent, or 45,000 bushels—which, expressed in money, at 75 cents the bushel, amounts to $33,750.

Serious as our loss seems to be from the bad management of our barley, it will be found to be no less so upon our hop crop. About 2,300 bales, or 50,000 lbs., is the estimated quantity brought to market the last year. Of this quantity, I am assured by the best judges of the article, there were not 200 bales which ought to have been denominated *first sorts*. Many of the hops were imperfectly dried, and in consequence of the moisture in them when bagged, a fermentation was induced highly detrimental to their quality. The criterion by which hops are determined to be well dried is, when the stocks become perfectly shriveled and dry. This is not found to be the case with those sent to this market, and the effect is that deterioration goes on till the hops are used, whereas well dried hops lose very little of their goodness by being kept over. Again—too much heat, particularly in the outset, is prejudicial, as it drives off with the moisture the aroma or essential oil which gives value to the hop. A great portion of our hops are picked too early, before they are sufficiently matured, while other parcels are scorched or otherwise injured in the process of curing; and although they might bear a superficial appearance of being prime, most of them on critical examination were found to be extremely deficient in the principle which gives them value. While the average price may be stated at 18 cents, many of these hops are declared not to have been worth two cents the pound.

Here then—if the data which I have given are correct—are two of the staple productions of our soil, on which we have lost, or what amounts to the same thing, have failed to realize, from 50 to 100,000 dollars in a single year, *from carelessness, or a want of knowledge in their culture and preparation for market.* To what extent might this sum be swelled were we to embrace in this inquiry the other products and labors of husbandry! A like disparity, I apprehend, between good and bad management would be found to exist in almost every department of our agriculture.—(*To be concluded.*)

PRICES CURRENT.

ARTICLES.	PER	ROCHESTER. March 14.	NEW-YORK. March 8.
Ashes—Pot....	100lbs.	$3,25 a 0,00	$4,20 a 4,25
—— Pearl..	.....	3,50 a 4,25	4,60 a 4,65
Beeswax, yellow	lb.	0,16 a 0,18	20 a 21
Candles, mould	.....	0,10 a 0,11	12. a 13
—— dipped.	.....	0,10a0,10½	11 a 12
Cloverseed.....	.....	.....	7½.a.8½
Flax, American.	.....	.....	9..a.11
Flax seed, clean	tierce	9,00a10,00	14,88a15,50
Flour, Western.	barrel	4,50 a 4,75	4,88 a5,12
Grain, Wheat..	bushel	0,75 a 0,81	.....
—— Rye....	.....	0,62.....	60.a..67
—— Oats...	.....	0,25.a..27	33.a..36
—— Corn...	.....	0,46.....	60.a.62½
—— Barley..	.....	0,50.a..56	72.a..74
Hemp, Americ'n	ton	.....	130 a 150
Hops, 1st sort..	lb.	.....	18.a..20
Plaster Paris...	ton	6,00 a 0,00	2,88 a4,25
Beef, Mess....	barrel	0,00 a10,00	8,75 a9,50
—— Prime....	.....	0,00 a 8,00	5,75 a 6,00
Pork, Mess....	.....	13,00a14,00	13,00a14,25
—— Prime....	.....	11,00	10,00a10,75
—— in the hog.	100lbs.	4,50 a 5,00	.....
Hog's Lard....	.....	8,00 a 9,00	8,00 a 9,25
Tallow.....	.....	7,50 a 8,00	7,50.....
Hay.....	ton	7,50 a 8,00	12,50a15,00
Apples.....	bushel	25.a..50	.....
Potatoes.....	.....	18.a..25	.....
Cheese.....	lb.	6.a...8	7½a....
Butter.....	.....	12..a.14	15.a..17

Valuable Sheep for Sale.

THE subscriber having more SHEEP than he wishes to keep through the summer, will on or before the first of June next, sell about eighty of his fine wooled Ewes with their lambs. Farmers wishing to commence or increase their flock of sheep, will seldom meet with as profitable a lot of Ewes. The greater part of them have been raised from rams from the flock of the Hon. R. S. Rose, and the lambs to be sold with them are from rams selected from the above mentioned flock, which for quality of wool, is not excelled in the United Sates. The subscriber has also 135 three and four year old Wethers of the first quality, which he will sell about the same time. JOHN JOHNSON.

Fayette, Seneca County, Feb. 7, 1833. feb8-f3m

Sap Buckets.

2000 SAP Buckets for sale at the Rochester Pail, Tub and Churn Factory near Frankfort market, State-street.

3 mo. 18th, 1834.—mar 1-f3m

Albany Seed Store and Horticultural Repository.

THE subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, *warranted* of the best quality

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered, and perfection approximated.

Orders will be punctually attended to, and carefully packed and forwarded as directed. But as the collection of distant debts is often troublesome, and sometimes impracticable, it is desired that satisfactory references may be made to persons in *Albany*, when the order is not accompanied with the money.

Also, French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurzel, Yellow Locust, Ruta Baga, and Field Turnep Seeds, well worth the attention of *Farmers*.

W. THORBURN,

347 N. Market-st. (opposite Post Office.)

☞ Catalogues may be had at the Store, if sent for by mail, will be forwarded gratis: *orders* solicited early, as better justice can be done in the execution.

Albany, Jan. 21, 1834. feb1-4trltalt

MONROE GARDEN AND NURSERY,

GREECE, NEAR ROCHESTER, N. Y.

THE subscriber offers to the public a choice selection of Fruit Trees, of French, German English and American varieties, consisting of Apples, Pears, Plums, Peaches, Cherries, Apricots, Nectarines, Quinces, Currants, Gooseberries, Raspberries, Strawberries, Ornamental Trees, Shrubs, Plants, Hardy Roses. Vines, Creepers, Herbaceous Perennial Plants, Bulbous Roots, &c.

Also, a few hundred of the Morus Multicaulis or Phillipine Mulberry, the white Italian Mulberry by the hundred or thousand, English Hawthorn Quicks, Grape Vines of both native and foreign varieties, mostly of large size, for sale by the single vine, hundred or thousand at reduced prices

The subscriber has a large Green House well filled with a large collection of choice Green-House Plants in good condition.

All orders, by mail or otherwise, wil be promptly attended to, and packages delivered in Rochester or at the mouth of Genesee River.

ASA ROWE.

Orders for Mr. Rowe's Nursery received by the Publishers of this paper.

Catalogues may be had at the office of the Genesee Farmer—will be sent to those who wish them gratis October 5, 1833 f6m

Draining of Land, &c.

DRAINING being admitted to be one of the best, if not the very best means of improving land, and which repays the expense in general cases within two or three years; the subscriber who has studied the theory and has had much practice in that art for 30 years in Scotland, offers his services to the Public.

CULTURE OF TURNEPS.—Also, having been engaged for many years in raising Turneps to a considerable extent in Scotland and a few years in the County of Oneida in this State, he will give such directions for cultivating this valuable root as will tend to ensure success. If any application on this subject is made by letter, one dollar must be enclosed, and at the same time it will be ncessary to give a description of the soil, whether clay, sand, or loam, and of the two crops which have preceded on the land to be sowed.

TURNEP DRILL MACHINE.—Machines for sowing Turnep and Mangel Wurzel seeds similar to those which the subscriber used for twenty years in Scotland, and which he has used successfully here, are manufactured and sold by him for Cash.

Letters post paid, addressed New Hartford, Oneida County, N. Y., will meet with due attention. Most respectable references can be given.

Jan. 10, 1834. THOS. DUDGEON.